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GNRO-2008/00076

December 15, 2008

U.S. Nuclear Regulatory Commission

Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: LER 2008-004-00- Automatic Reactor SCRAM On Decreasing Coolant Level  
Due to Inadvertent Reactor Feed Pump Steam Supply Valve Closure

Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

Dear Sir or Madam:

Attached is Licensee Event Report (LER) 2008-004-00 which is a final report.

This letter does not contain any commitments.

Yours truly,

A handwritten signature in black ink, appearing to read "Michael J. Larson", followed by a horizontal line.

Michael J. Larson  
Acting-Manager, Licensing

MJL/JEO:jeo

attachment: LER 2008-004-00

cc: (See Next Page)

cc: NRC Senior Resident Inspector  
Grand Gulf Nuclear Station  
Port Gibson, MS 39150

U. S. Nuclear Regulatory Commission  
ATTN: Mr. Elmo E. Collins (w/a)  
Regional Administrator, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-4005

U. S. Nuclear Regulatory Commission  
ATTN: Mr. Carl F Lyon, NRR/ADRO/DORL (w/2)  
**ATTN: ADDRESSEE ONLY**  
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Mail Stop OWFN/8 B1  
Washington, DC 20555-0001

NRC FORM 366

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 08/31/2010

(9-2007)

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**1. FACILITY NAME**

Grand Gulf Nuclear Station, Unit 1

**2. DOCKET NUMBER**

05000416

**3. PAGE**

1 OF 3

**4. TITLE Automatic Reactor SCRAM On Decreasing Coolant Level Due To Inadvertent Reactor Feed Pump Steam Supply Valve Closure**

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	23	2008	2008	- 004 -	00	12	15	2008	N/A	N/A
									N/A	N/A

**9. OPERATING MODE**

1

**11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)****10. POWER LEVEL**

010

- |                                             |                                             |                                                        |                                               |
|---------------------------------------------|---------------------------------------------|--------------------------------------------------------|-----------------------------------------------|
| <input type="checkbox"/> 20.2201(b)         | <input type="checkbox"/> 20.2203(a)(3)(i)   | <input type="checkbox"/> 50.73(a)(2)(i)(C)             | <input type="checkbox"/> 50.73(a)(2)(vii)     |
| <input type="checkbox"/> 20.2201(d)         | <input type="checkbox"/> 20.2203(a)(3)(ii)  | <input type="checkbox"/> 50.73(a)(2)(ii)(A)            | <input type="checkbox"/> 50.73(a)(2)(viii)(A) |
| <input type="checkbox"/> 20.2203(a)(1)      | <input type="checkbox"/> 20.2203(a)(4)      | <input type="checkbox"/> 50.73(a)(2)(ii)(B)            | <input type="checkbox"/> 50.73(a)(2)(viii)(B) |
| <input type="checkbox"/> 20.2203(a)(2)(i)   | <input type="checkbox"/> 50.36(c)(1)(i)(A)  | <input type="checkbox"/> 50.73(a)(2)(iii)              | <input type="checkbox"/> 50.73(a)(2)(ix)(A)   |
| <input type="checkbox"/> 20.2203(a)(2)(ii)  | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A) | <input type="checkbox"/> 50.73(a)(2)(x)       |
| <input type="checkbox"/> 20.2203(a)(2)(iii) | <input type="checkbox"/> 50.36(c)(2)        | <input type="checkbox"/> 50.73(a)(2)(v)(A)             | <input type="checkbox"/> 73.71(a)(4)          |
| <input type="checkbox"/> 20.2203(a)(2)(iv)  | <input type="checkbox"/> 50.46(a)(3)(ii)    | <input type="checkbox"/> 50.73(a)(2)(v)(B)             | <input type="checkbox"/> 73.71(a)(5)          |
| <input type="checkbox"/> 20.2203(a)(2)(v)   | <input type="checkbox"/> 50.73(a)(2)(i)(A)  | <input type="checkbox"/> 50.73(a)(2)(v)(C)             | <input type="checkbox"/> OTHER                |
| <input type="checkbox"/> 20.2203(a)(2)(vi)  | <input type="checkbox"/> 50.73(a)(2)(i)(B)  | <input type="checkbox"/> 50.73(a)(2)(v)(D)             | Specify in Abstract below or in NRC Form 366A |

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME

Grand Gulf Nuclear Station - Michael J. Larson, Acting Licensing Manager

TELEPHONE NUMBER (Include Area Code)

601-437-6685

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

**14. SUPPLEMENTAL REPORT EXPECTED**☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO**15. EXPECTED SUBMISSION DATE**

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On October 23, 2008 at 0721 Grand Gulf Nuclear Station was operating in MODE 1 at approximately 10 percent power when an actuation of the Reactor Protection System (RPS) occurred due to decreasing reactor coolant level. The decreasing reactor coolant level was the result of closure of the "A" Reactor Feed Pump Turbine (RFPT) steam inlet valves. During restoration of the "B" RFPT Overspeed Trip Test a non-licensed operator (NLO) closed the steam supply drain valves on the "A" RFPT train instead of the "B" train. Closure of the drain valves did not cause loss of feedwater to the reactor vessel. Upon discovery of the mistake the NLO tried to correct the error and closed the "A" RFPT steam inlet valves. This led to the loss of feedwater flow to the reactor vessel.

A reactor SCRAM was received per design at Level 3 (+11.4 inches) and all control rods fully inserted. Operators manually initiated the Reactor Core Isolation Cooling system to restore and maintain reactor vessel level. No emergency core cooling system initiation setpoint was reached and no safety relief valves lifted. The normal heat sink (main condenser) remained available during this event.

The root cause of this event was determined to be a lack of commitment to Human Performance Program implementation.

**LICENSEE EVENT REPORT (LER)**

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Grand Gulf Nuclear Station, Unit 1	05000416	YEAR	SEQUENTIAL NUMBER	REV NO.	2 of 3
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**A. REPORTABLE OCCURRENCE**

On October 23, 2008 at 0721 Grand Gulf Nuclear Station experienced an automatic reactor SCRAM due to decreasing reactor coolant level. Upon decreasing to Level 3 (+11.4 inches) a Reactor Protection System (RPS) [JC] SCRAM signal was auto initiated. The initiation of RPS resulting in an automatic reactor SCRAM is reportable pursuant to 10 CFR 50.73(a)(2)(iv)(A).

**B. INITIAL CONDITIONS**

At the time of the event, the reactor was in OPERATIONAL MODE 1 with reactor power at approximately 10 percent. There were no additional inoperable structures, systems, or components at the start of the event that contributed to the event.

**C. DESCRIPTION OF OCCURRENCE**

On October 23, 2008 at 0721 Grand Gulf Nuclear Station experienced an automatic reactor SCRAM due to decreasing reactor coolant level caused by loss of "A" RFPT train. At the initiation of the SCRAM the unit was operating in Mode 1 at approximately 10 percent power. Prior to the SCRAM Operations had performed a Reactor Feed Pump Turbine (RFPT) [SJ] "B" Overspeed Trip Test with the RFPT uncoupled from the pump. The system was ready for restoration therefore the control room reactor operator (RO) dispatched a non licensed operator (NLO) into the plant to restore the system. The NLO proceeded to manipulate controls on what was thought to be the "B" RFPT train however the NLO manipulated the steam supply drains on the operating "A" RFPT train. These steps did not initiate the loss of the "A" RFPT. As the NLO proceeded to the next step it was noticed that there was no light indication for the next valve to be manipulated. Having performed the valve line up on the "A" RFPT train the day before the NLO now realized it was the "A" train rather than the "B" train due to the fact that the NLO remembered the lack of light indication. At the same time the NLO realized the mistake the main control room called the NLO on the plant public address system. The NLO concluded that the page concerned the mistake and attempted to correct the error. In an attempt to undo the error the NLO closed the High Pressure Steam Supply Valves to the "A" RFPT. As a result of the isolation of the steam inlet valves the "A" RFPT lost steam pressure. Shortly thereafter the Reactor Feed Pump discharge pressure dropped below reactor pressure, which resulted in a loss of feedwater flow to the reactor vessel. This resulted in a reactor SCRAM upon reaching Level 3 (+11.4 inches).

The reactor SCRAM came in as designed at Level 3 (+11.4 inches). Operators manually initiated Reactor Core Isolation Cooling (RCIC) to restore and maintain reactor vessel level. The lowest indicated reactor vessel level was -39 inches Wide Range. All withdrawn control rods fully inserted and no emergency core cooling system (ECCS) initiations were received. No Safety Relief Valves lifted as a result of this event and all other equipment operated as expected.

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#### D. CAUSE of OCCURRENCE

The cause of the event was that the NLO did not use the self checking standard of TOUCH-READ-READ which involves touching the component intended to be manipulated, reading the tag, and reading the procedural step to verify the correct component was about to be manipulated. The NLO also did not use the required circle and slash method of place keeping.

The root cause of this event was determined to be a lack of commitment to Human Performance Program implementation.

#### E. CORRECTIVE ACTIONS

Immediate Corrective Actions – Reactor water level was restored and the plant placed in a stable condition. The individual involved was removed from shift and a human performance error review was conducted. Additionally, temporary covers were placed over the switches on the 1H22-P175 Panel for the RFPT "A" and "B" controls.

Long Term Corrective Actions - Condition Report CR-GGN-2008-06195 was written and will address any additional actions.

#### F. SAFETY ASSESSMENT

Immediate actions performed by the Operations staff were adequate and appropriate in placing and maintaining the reactor in a safe shutdown condition. The lowest reactor level indicated was -39 inches Wide Range. This is above the initiation setpoint for ECCS systems. RCIC was manually initiated to restore and maintain reactor vessel level.

The Group 2 Residual Heat Removal (RHR) to Radwaste and Group 3 RHR Shutdown Cooling automatic isolations were received however no valves isolated because they were in their normally closed position prior to the event. No Safety Relief Valves lifted as a result of this event and all other systems performed as required.

This event did not prevent the fulfillment of a safety function therefore there were no safety system functional failures. The health and safety of the public was not compromised by this event.

#### G. ADDITIONAL INFORMATION

Previous Similar Events – Pursuant to 10CFR50.73(b)(5) this issue is considered an infrequent event. There has not been any occurrence of the same underlying concern in the past two years at Grand Gulf Nuclear Station.